

SUBC1
B1
where

M_c - molecular mass of carbon, g/mole;

M_k - molecular mass of the selected carbide, g/mole;

ρ_k - density of the selected carbide, g/ccm;

ρ_c - density of carbon, g/ccm;

v - number of carbon atoms in carbide molecule;

forming an intermediate body with transport pores having a size larger than 100 nm by shaping the selected powders, heat treating the intermediate body in a medium of gaseous hydrocarbon or hydrocarbon mixtures at a temperature exceeding the decomposition temperature for the hydrocarbon or hydrocarbons until the mass of the intermediate body has increased at least 3% thereby producing a work piece in the form of a rigid carbonaceous skeleton; and

thereafter thermochemically treating the work piece in a medium of a gaseous halogen to produce the porous carbon article having nanopores of a size X.

Amend claim 31 as follows:

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- 31. (amended) The method according to claim 24, wherein the mixture of hydrocarbons comprises a natural gas.